An exploration of obstacles faced by women who are C-level leaders in the technology industry and in tech-focused organizations, and how those challenges are being addressed—in Minnesota and nationally.
Nearly 60 percent of women contribute to the U.S. workforce, and they account for more than half of all workers in management and professional occupations. Women who work are entrepreneurial—more than ever they are launching and leading thriving enterprises. In fact, since 2007, the number of women-owned businesses has grown 45 percent—five times faster than the national average for all businesses. Over the next decade, women have the potential to add trillions of dollars to the growth of the global economy.

Despite their contributions to the workforce and the economy, gender inequities continue to create significant hurdles for women in business. Nowhere is this more evident than in the technology industry and in tech leadership positions. According to the most recent U.S. Census data, women accounted for just one-quarter of the workforce in computer occupations and only 8 percent of leadership positions.

Women in tech are paid less and promoted less often than men—disparities that have contributed to women opting out of tech jobs, with nearly 60 percent leaving the industry at midpoints in their careers. Additionally, women-led tech firms receive less funding, despite studies that show they get an average 35 percent higher return on investment than their male counterparts.

These issues have inspired several women in Minnesota to devote their lives and careers to breaking down barriers, overcoming obstacles and transforming the technology industry for women and minorities. “Women in Leadership Transforming Tech” is a series of feature articles about the journeys of these women. It culminates with this white paper, which explores the obstacles faced by C-level leaders in the technology industry and in tech-focused organizations, as well as the ways in which they are addressing those challenges.

Contributors to this white paper include current and past clients of The Bailey Group and a number of women in technology in Minnesota, including entrepreneurs, venture capitalists and leaders of corporate and nonprofit organizations.
GENDER STEREOTYPES

The subject of gender and leadership has been hotly debated for centuries. Research dating back to the 1800s suggested that women were influenced by emotion more than men—a trait believed to impede leadership competence. At the turn of the century, pioneering psychologist Helen Thomson Woolley challenged that thinking with groundbreaking analysis that measured psychological characteristics in men and women and how those traits differed in various situations.

The men in the study scored higher in the areas of motor skills and creativity; the women performed better in memory and association tasks, and they demonstrated greater sensory perception. While characteristics were different between the sexes, neither indicated a predisposition for leadership. And ultimately Woolley found no evidence that one gender was more influenced by emotion than the other. In fact, she found there were more similarities than differences.

Recent research has indicated there are virtually no physiological differences in the brain structures of men and women that would suggest one is better suited for leadership. Studies have revealed that the human brain is a combination of features inherent to both genders, and differences cannot be classified specifically as male or female.

What about personality traits? Are there differences in the dispositions of women and men that influence their abilities to lead? Studies over the past three decades have proven that a number of characteristics are consistent among individuals more likely to become organizational leaders. A widely referenced meta-analysis, “Personality and Leadership: A Qualitative and Quantitative Review,” indicates that self-confidence, adjustment, sociability and integrity are traits frequently possessed among emerging leaders.

At The Bailey Group, we use personality assessments to understand how the leaders we work with perceive their everyday interactions and experiences. For nearly three decades, our psychologists and specialists have reviewed and interpreted data from thousands of assessments. The results have consistently demonstrated that there are personality characteristics more apparent in women, including self-awareness and eternal optimism. Other traits occur more frequently in men, such as aversion to conflict and lower interpersonal sensitivity.

However, personality characteristics are not gender exclusive and there are often exceptions. For example, a Minnesota health system leader inherited an organization with an outdated IT infrastructure, high debt and declining revenues. Faced with these significant challenges, she and her executive team integrated a strategic agenda designed to transform
the organization. As is often the case, some employees preferred the status quo and pushed back on the necessary changes. The CEO was, by all accounts, a highly competent leader, but she received feedback that staff perceived her as cold, unable to connect with stakeholders and lacking sufficient commitment to the vision—traits more commonly attributed to male leaders.

The reality is that women leaders experience a dilemma in the workplace that men rarely encounter: the double bind of being too soft or too tough. Additionally, they are often judged against a masculine standard of leadership. Women must exude competence and confidence in order to advance in their careers, and yet they are expected to retain certain feminine qualities in order to be perceived as likeable. In actuality, women leaders are often viewed as either competent or liked, but they are seldom seen as both. This is often evident in the technology industry.

Kim Skanson, vice president of global IT at Cargill, has navigated gender biases throughout her 20-year technology career. At one point, as she juggled responsibilities at home, three young children and a growing career, she looked around and didn’t see many other working mothers at her level. Skanson felt that in order to be perceived as a competent leader she had to hide certain aspects of herself. “I masked my [personal] life from everybody and I became a leader who held her cards so close that my team didn’t get to know me.”

All of that changed when someone who worked for Skanson shared that the staff perceived her as closed off, even describing her as a robot. She realized compartmentalizing her life wasn’t enabling her to be the type of leader and colleague she wanted to be. Skanson allowed herself to be more vulnerable and it was transformative for her.

The Bailey Group has observed that many women working in male-dominated occupations within larger corporations often face similar perception issues. Julie Durham, vice president of software engineering at UnitedHealth Group, echoed Skanson’s sentiments on vulnerability. “Computer code doesn’t discriminate if you’re a man or a woman, if you’re 15 years old or 65, but you have to be vulnerable and you have to ask for help.”

-Julie Durham
Vice President of Software Engineering
UnitedHealth Group

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UnitedHealth Group
A number of women have opted to leave the corporate world and start businesses where they were able to create unique workplace cultures more closely aligned with their personal values. Clockwork President and CEO Nancy Lyons launched her Minneapolis-based interactive design agency with “we’re nice” as one of the company’s core values. Lyons recruits teams of people who are committed to being nice, in and outside the office, and she has never been concerned that it would skew perceptions of her in a negative way.

Similarly, Nina Hale founded a firm of digital marketing experts who share her passion for fostering a workplace culture that values inclusion, collaboration and professional development. In 2014, Hale transformed Nina Hale, Inc. from a sole proprietorship to an employee stock ownership program (ESOP), and today more than 60 employees own 100 percent of the company. Hale acknowledged that the change in ownership structure has supported closer alignment of leaders and teams on strategy, because everyone has a stake in the success of the business.

**LACK OF ACCESS TO VENTURE CAPITAL**

Women aren’t just launching businesses in significant numbers; they’re building successful and sustainable enterprises. Since 2007, revenues for women-owned companies increased 30 percent more than the national average. When economic clout is included—number of firms plus revenue generated and jobs created—Minnesota ranks 11 out of all 50 states for growth.

This tremendous increase in women-led firms has occurred despite significant challenges women face in securing funding for their businesses. Even with similar credit scores and collateral as men, women are often denied critical startup funding. In fact, they receive only 7 percent of venture capital, despite research that shows their businesses get an average return on investment that is more than 30 percent higher than their male counterparts.

The gap in funding for women’s businesses is largely influenced by the lack of female partners at venture firms; only 7 percent of partners at the top 100 venture firms are women. Even investment firms with one woman at the partner level aren’t as likely to take a chance on a female entrepreneur. This is despite the fact that betting on women entrepreneurs typically pays off—they bring in 20 percent more revenue with 50 percent less capital invested.

Recent data on the state of women-owned businesses indicated that nearly one-third of new women-owned companies were categorized in a sector that includes technical services. This was not a surprise to Joy Lindsay, a trailblazer for women in tech and president of StarTec Investments. Lindsay receives emails daily from women with new business concepts. Supporting their ideas...
“The more women we get in angel investing and in venture capital, the better it will be for the whole ecosystem.”

Joy Lindsay
President
StarTec Investments

excites her as much today as it did when she made her first investment nearly two decades ago. “These women are entrepreneurs who are solving real problems,” she said.

Lindsay is widely recognized for her work to level the playing field for female entrepreneurs. She has provided capital for dozens of Minnesota businesses through her firm and as an angel investor with Sofia Fund, an organization she helped form that is dedicated to funding women-led ventures. “The more women we get in angel investing and in venture capital, the better it will be for the whole ecosystem,” she said.

Other Twin Cities-based organizations like Capita3 are dedicated to investing in companies that are led by extraordinary women. Programs like MN Cup—a startup competition organized by the University of Minnesota Carlson School of Management—support emerging entrepreneurs in the state. MN Cup’s ongoing Women’s Initiative addresses the specific challenges and opportunities women encounter as entrepreneurs, innovators and inventors.

The Women’s Business Development Center (WBDC)-Minnesota also supports women with small business loans and resources to help ensure their success.

LEADERSHIP PAY AND PROMOTION GAP

Despite evidence indicating both women and men possess the mental and physical capacity to successfully navigate leadership roles, a 2014 study notes: “Women are still less likely than equally skilled men to find themselves in leadership positions, especially positions higher up in the organization, and on governance boards. When women do find themselves in positions of leadership, evidence supports the existence of the ‘glass cliff,’ whereby they are more likely to be promoted to precarious positions than males.”

Just over 4 percent of the CEOs in Fortune 500 companies are female, and women in chief executive positions earn an average of 70 percent of the salary of their male counterparts. In the tech industry as a whole, women hold less than 10 percent of leadership positions.

Not only do women have fewer female role models at the senior leadership level, women in tech are less likely to be promoted to manager positions, which is the first step up to leadership, leaving
many of them off the leadership path entirely. Women in technology hold 36 percent of entry-level jobs, but just 19 percent make it to the C-suite, with very few becoming CEO.

And yet, women are reportedly negotiating for promotions and increased pay as often as men these days. Those women are 54 percent more likely to get what they want than women who don’t. But there is a catch-22: Women who advocate for a promotion or pay increase for themselves are 30 percent more likely than men to be described as bossy, aggressive or intimidating.

Women’s networks are another contributing factor to fewer females holding leadership roles. Despite their commitment to building relationships, women don’t leverage their contacts to get promoted as often as men do. Rather, they tend to use networking as a way to share information and to feel energized.

Both men and women tend to have more people of the same gender in their professional networks, but women are three times more likely to have a mostly female network. With fewer women holding senior leadership roles, the women in their networks will be less likely to hear about senior-level job openings.

Virginia Clay-Chism, director of IT productivity services and operations for Medtronic, stressed the importance of networking at a level where the right people understand the value you bring to the organization. “Ideally you put yourself into circumstances that let you network naturally and authentically. If that doesn’t happen on its own, you need to make it happen, even if it’s not comfortable.”

OPTING OUT OF—AND INTO—THE WORKFORCE

More than ever, women are leaving established careers to raise children full time. In the technology industry, the challenges females face have contributed to nearly 60 percent of women leaving the industry at midpoints in their careers. Frequently this occurs after women take time away from their jobs to have children—they are deciding not to return to the less-than-ideal work conditions they experienced before childbirth.

Conversely, many women are choosing tech-focused jobs in midlife—sometimes as their “second career”—but they are not always warmly welcomed into those roles. Nancy Lyons attributes this to another pervasive stereotype in technology that prevents older members of the
workforce from seeing a place for themselves in the industry. “We have a hard time recognizing that technology doesn’t actually belong only to the youth of America. It’s an opportunity for people from all different age groups and educational backgrounds,” Lyons said.

Michelle Masson spent 15 years in technology and is now the senior vice president of organization experience for MD Financial Management. Part of her role is fostering the company’s culture, which has been described by multiple people as feminine based due to its focus on the whole person. “It’s interesting to me that treating employees as people with real lives is seen as bringing feminine values to the workplace,” she said. “For us, it just makes good business sense, helping us attract and retain the best people, regardless of gender or any other factor.”

Technology companies are increasingly recruiting women returning to the workforce as part of a “war for talent” and to help mitigate the general underrepresentation of women in the industry. A variety of Silicon Valley-based tech companies are providing internships and other reentry programs to attract women who are both new to the industry and just coming back into the workforce, and multiple organizations have sprung up to help match tech companies and women, including PowerToFly and the STEM Reentry Task Force.

In Minnesota, organizations like Geekettes and Women Leading in Tech (WLIT)—a group managed by the Minnesota High Tech Association (MHTA)—are helping guide women through the challenges of taking on tech careers.

LACK OF DIVERSITY

Among high-tech workers, white and male employees are overrepresented. The higher you go within tech companies, the lack of diversity becomes more evident—83 percent of executives in tech are white, less than 5 percent are black and less than 5 percent are Hispanic.

Some studies suggest that the lack of diversity in tech is a pipeline problem due to low numbers of women and minorities graduating with degrees in computer science. It is true that fewer women are graduating with computer science degrees—the number has dropped nearly 20 percent over the past 30 years. Blacks and Hispanics—who make up 30 percent of the
U.S. population—earned only 20 percent of degrees in computer science. However, the data indicates that significantly more black and Hispanic students are majoring in computer science and engineering than work in tech jobs. The women we interviewed suggested that there could be issues with outreach or biases in the application and selection processes. The lack of diversity could also indicate that tech jobs are not the right lifestyle or cultural fit for some women and people of color.

CaringBridge CEO Liwanag Ojala believes women in tech leadership have a responsibility to act as role models in the community, particularly when it comes to supporting other women and diversity. Ojala is wholly committed to fostering an inclusive culture at CaringBridge. “The best way organizations can promote diversity is to demonstrate it in their leadership,” she said, noting that diversity is demonstrated throughout the entire CaringBridge executive team. “Diversity seeks diversity.”

Nancy Lyons is leading the charge to improve diversity among Minnesota’s technology companies through the Minnesota Tech Diversity Pledge, an effort she created and spearheads to hold organizations—including her own—accountable to increase hiring and promotion of women, people of color and members of the LGBTQ community. For Lyons, diversity and culture are integral to the advancement of the technology industry. “I realized that what was missing from the technology conversation was the narrative around [diversity], and that’s where I saw an opportunity for me.”

Kim Skanson is also committed to fostering a culture of inclusion among the people she leads, including virtual teams with people from many distinct cultures. “I pay attention to whether I’m building the best, most diverse and well-balanced team I can, where everybody’s voice is heard at the table.”

STEM EDUCATION GAP

There are three major hurdles in leading students into careers in computer sciences: lack of interest, lack of access and lack of role models. Though most girls and minorities are familiar with computer science programs, only around half are interested in trying them.

Organizations like TechPrep—a national initiative launched by McKinsey and Facebook—aim to get more girls and students of color excited about computer sciences. Lack of access to computer science programs and role models for black and Hispanic students is a significant barrier in steering them toward technology-related careers; white and Asian students are much more likely to have access to afterschool computer and robotics programs.
Parents play a key role in influencing how kids perceive science, technology, engineering and mathematics (STEM) careers. It is important to address misconceptions and stereotypes early on. "I always tell my kids, 'Don't be a consumer, be a creator.' That's what you become in a STEM-related career," Virginia Clay-Chism said.

For girls in particular, deeply embedded stereotypes begin shaping how they think about their career aspirations at a young age. Alison Brown, president of the Science Museum of Minnesota, explained that as early as elementary school, girls begin having doubts. Without specialized school curriculum, dedicated educators and positive role models, many girls make up their minds that they aren't good at STEM subjects.

Brown emphasized that offering a system of support is critical for girls and minorities. And institutions like the Science Museum are important because they provide an interactive environment where multiple generations explore and learn together. "They can have a shared experience with their grandmother, grandfather, sister, brother—and talk about science in a way that's fun and engaging," Brown said. "It breaks down the barrier of science being scary because they can see everybody do it."

The Science Museum also offers special programs for girls, such as its annual Girls, Science and Technology event. Dozens of women who work in STEM careers at major corporations are featured throughout the day. Girls have the opportunity to partake in one-on-one interactive experiments and demos with women scientists and engineers who are experts in their fields. Additionally, the Kitty Andersen Youth Science Center provides opportunities for girls and boys to work together on building leadership skills and STEM career readiness.

Supporting the women who teach STEM-related subjects is also an important focus for the museum. It recently launched the LinCT Project, which aims to increase the number of female educators in STEM and provides resources for incorporating technology-based programs into classroom curricula.

A number of other organizations in Minnesota promote and expose technology to youth, including BRIDGE(dot)MN, Code Savvy, Genesys Works-Twin Cities, High Tech Kids and Reve Academy.

“\"I always tell my kids, ‘Don’t be a consumer, be a creator.’ That’s what you become in a STEM-related career.\"”

Virginia Clay-Chism
Director of IT Productivity Services and Operations
Medtronic
SUMMARY AND CONCLUSION

Organizational transformation is not for the faint of heart. Leaders determined to break down barriers for women and minorities in any industry must begin as each of our interviewees did—by asking yourself: What is my personal commitment to diversity and inclusion? Am I willing to challenge stereotypes and longstanding practices within my organization and my industry? Am I willing to lead by example and develop the next generation of empowered leaders and role models? Am I willing to hold my company and myself accountable?

Some key considerations as you move forward:

1. **Examine your own biases.** Science suggests that most of our commonly held assumptions about gender and leadership are based in bias, not fact. As CEO, you set the tone for the entire organization. Leaders in male-dominated industries such as technology and financial services must learn to be skeptical of personal preconceptions about the differences between men and women in the workforce and challenge themselves not just to think differently, but also to act differently. Move to a 21st-century mindset; make decisions based on qualifications and performance outcomes rather than cronyism and prejudices.

2. **Take responsibility for your company culture.** Healthy businesses are not measured on financial success alone. Creating inclusive workplace cultures is becoming increasingly more important, especially in industries like tech. As the CEO of your organization, you are accountable for articulating and advancing the company’s higher purpose and values. You determine whether the best way to support employees balancing work and family means focusing on outcomes rather than where or what time of day work is completed. The criteria for advancement within your organization, and whether or not you will provide opportunities for all qualified candidates to develop, is ultimately up to you. You determine which organizations, initiatives and suppliers the company will align itself with. And everyone on the team must share your passion for the company’s values; otherwise business outcomes will suffer.

3. **Acknowledge that change starts at the top.** The research illustrates a need for organizations to enlist executive teams that possess the knowledge and ability to address the critical talent management issues of today. Recruiting, retaining and developing a diverse workforce
must be a top priority. To propel these efforts forward, CEOs must create role models at the executive level and support key human resource leadership positions. Set clear expectations for identifying a diverse range of high-potential employees within your organization. Develop targeted talent-management efforts aimed at providing challenging opportunities and competitive compensation for underrepresented groups. Ensure compensation is analyzed within your organization to support equality.

4 An ongoing commitment is required for transformation to cascade through the organization. Executive team alignment is just the beginning. In order to succeed in transforming, businesses must commit to shaping future generations of leaders. Successful CEOs must take an innovative approach to leadership development that goes beyond skills-based training. Customized coaching and cohort leadership programs provide opportunities for strategic dialogue with senior leaders and high-potential managers. Not only is this approach proven to be most effective, it is critical for women and minorities who are less likely to have access and opportunity to build relationships with executive-level leaders. Employee resource groups also provide powerful forums for support and for enhancing career and personal development in the workplace.

5 “If you can’t measure it, you can’t manage it.” There is a reason this Peter Drucker quote has been widely referenced in business for decades: Data matters. Successful organizations are intentional about defining measurable goals around diversity and inclusion. Some companies use annual engagement surveys to measure employees’ perceptions around efforts to engage and empower diverse groups. Others provide specific goals for employee recruitment, retention and development in managers’ performance objectives. The bottom line is that tracking and analyzing this data supports an ongoing dialogue about diversity and inclusion, and it enables leaders to determine which efforts have the biggest impact on organizational success.

The women in leadership transforming tech that were interviewed for this white paper are role models for all CEOs and business leaders. They have earned a reputation in Minnesota and North America for elevating women and creating empowered workforces, as well as for making diversity and inclusion a strategic priority for their organizations. They possess a shared awareness that companies that are insular—limited in their thinking and out of touch with an increasingly diverse customer base—will not succeed in a worldwide economy. Organizations like theirs, that are willing to challenge the technology industry’s status quo, recognize that it is not only the right thing to do, but it also provides a unique business advantage.
ABOUT THE BAILEY GROUP

Since 1989, The Bailey Group has led thousands of CEOs and executives through successful organizational transformation. Our services include CEO advising, leadership team development and team member coaching. Though we work across many industries, The Bailey Groups specializes in shaping extraordinary people into transformational leaders in technology, healthcare and financial services.

MINNESOTA RESOURCES

Advance IT Minnesota
BRIDGE{dot}MN
Capita3
Clockwork
Code Savvy
FreeGeek-Twin Cities
Geekettes
Genesys Works-Twin Cities
High Tech Kids
Kitty Andersen Youth Science Center
Minne*
Minnesota Computers for Schools
MN Cup
Minnesota Emerging Software Advisory (MESA)

MINNESOTA RESOURCES

Minnesota High Tech Association (MHTA)
Minnesota Tech Diversity Pledge
MOJO Minnesota
Nina Hale, Inc.
PCs for People
Reve Academy
Science Museum of Minnesota
Sofia Fund
StarTec Investments
TECH{dot}MN
Women’s Business Development Center (WBDC)-Minnesota
Women Leading in Tech (WLiT)

NATIONAL RESOURCES

Black Girls Code
The Clubhouse
Code
Codecademy

NATIONAL RESOURCES

Girl Develop It
Girls Who Code
TechPrep
Udacity